

# **The decline of infinitival complementation in Ancient Greek**

## **A case of diachronic ambiguity resolution?**

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*Abstract:* Several reasons have been proposed for the decline of infinitival complementation in Ancient Greek: the fact that the infinitive became morphologically restricted, the inherent redundancy of the Classical complementation system, and language contact. In this article, I explore yet another reason for the decline of the infinitive: I argue that the system of infinitival complementation became fundamentally ambiguous in its expression in later Greek.

As has been noted previously, the loss of the future and perfect tense had a serious impact on the use of infinitival complementation. However, rather than there being an ‘omission’ of temporal distinctions, as previous studies have claimed, I argue that the present and aorist infinitive became polyfunctional, being used for anterior, simultaneous, and posterior events. Next to temporal ambiguity, a second type of ambiguity occurred: ‘modal’ ambiguity or ambiguity with regard to the speech function of the complement clause. Already in Classical times, the present and aorist infinitive could be used after certain verb classes to encode both ‘propositions’ and ‘proposals’ (offers/commands), an ambiguity which continues to be found in later Greek. The study is based on a corpus of documentary texts from the Roman and Byzantine periods (I–VIII AD).<sup>1</sup>

*Keywords:* temporal ambiguity, modal ambiguity, infinitive, Post-classical and Byzantine Greek, documentary texts

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### 1. Introduction

One of the defining traits of Post-classical and Byzantine Greek<sup>2</sup> syntax is the simplification of the complementation system.<sup>3</sup> Whereas in Classical times the infinitive, participle, optative, subjunctive and indicative were all in use, in Post-classical times, the infinitive, participle and optative gradually started to disappear. The infinitive in particular was a very productive category in Classical Greek. Nevertheless, infinitival forms became highly restricted in use and number between the Ancient and Modern Greek periods;<sup>4</sup> as Joseph (1987:367) notes ‘the spread of finite complementation is complete ... in Modern Greek, and there are no instances of non-finite complementation remaining’.

A number of reasons have been suggested for the decline of the infinitive. First, the infinitive as a category became morphologically restricted:<sup>5</sup> the perfect and future infinitive were lost in Post-classical times, and the middle endings were given up in favour of passive ones.<sup>6</sup> Second, the Classical complementation system was, in a certain sense, redundant:<sup>7</sup> there were many alternative constructions available. Non-finite complementation patterns were disadvantaged vis-à-vis their finite counterparts, since (i) they could be used either in non-factive contexts (the AcI) or in factive ones (the AcP),<sup>8</sup> whereas finite complementation patterns could be used in both contexts, depending on the complementiser used;<sup>9</sup> (ii) they were associated with argument identification<sup>10</sup> between the matrix and the complement clause;<sup>11</sup> finite complements, on the other hand, were control-neutral and did not

<sup>2</sup> I refer to ‘Post-classical Greek’ as the period from the third century BC until the sixth century AD, and to ‘Byzantine Greek’ as the period from the seventh until the fifteenth century AD.

<sup>3</sup> See e.g. Joseph (1987:366); Horrocks (2007:620–621); Bentein (2015, 2017a).

<sup>4</sup> Joseph (1983:49) finds the first traces for this decline as early as Thucydides, where the infinitive is strengthened by the addition of an extra ‘particle’, the genitive neuter article τοῦ.

<sup>5</sup> Cf. Joseph (1983:55–57).

<sup>6</sup> Later on, the aorist endings in -σαι and -θηῖναι were remodelled into -σειν and -θηῖν, and still later the final -ν was dropped.

<sup>7</sup> See e.g. Cristofaro (1996).

<sup>8</sup> On the notion of factivity, see further §2.

<sup>9</sup> ὅτι and ἵνα, in particular, developed into serious rivals (Joseph 1983:51, referring to Mandilaras 1973:309).

<sup>10</sup> Although less so than in some other languages (compare e.g. Stiebels 2007:27).

<sup>11</sup> As in δύναμαι λέγειν ‘I can speak’, where the subject of the matrix clause is identical with that of the complement clause (so-called ‘subject control’), or κελεύω αὐτὸν λέγειν ‘I order him to speak’, where the indirect object of the matrix clause is identical with the subject of the complement clause (so-called ‘object control’).

require argument identification;<sup>12</sup> (iii) through the choice of finite structures, it was possible to simplify complementation, all subjects being in the nominative case, and all verbs being inflected for person and number.<sup>13</sup> Third, in other languages that came into contact with Greek, too, such as Latin and Coptic, we see a tendency towards the use of finite complementation structures (Latin *quod* and Coptic *je*).<sup>14</sup> As James (2008:57) notes, ‘this preference for finite clauses in all three languages was a mutually reinforcing feature, assisting the spread of ὅτι clauses at the expense of infinitives and complementary participles’.<sup>15</sup>

In this article, I will explore yet another factor in the decline of infinitival complementation. I will argue that due to the loss of the perfect and future tense, the present and aorist infinitive became polyfunctional, rendering the system of infinitival complementation increasingly ambiguous when it comes to the expression of temporal and modal properties.<sup>16</sup> In recent years, the temporal properties of infinitival complement clauses in Classical and Post-classical Greek have been studied in detail by J. Kavčič (2009, 2015, 2016, 2017, *forthc.*). However, as these analyses have mainly focused on variation between aorist and perfect infinitives in one type of infinitival structure (called here ‘propositions’),<sup>17</sup> in particular with regard to Early Post-classical Greek,<sup>18</sup> the bigger picture has, to my mind, been missed.

The analysis presented here is based on documentary texts (dating from the first until the eighth century AD), a corpus to which Kavčič (2017 in particular) has also drawn attention. Contrary to Kavčič (2017), however, I do not focus entirely on private letters: my corpus includes all (private/business/official) letters and petitions in so-called ‘archives’,<sup>19</sup> amounting to a total number of over 1700 texts.<sup>20</sup> Moreover, I have also analyzed the use of complementation in contracts

<sup>12</sup> Compare Stiebels (2007:33). On control in Post-classical Greek, see further Joseph (2002).

<sup>13</sup> Cf. Horrocks (2010:93); Bruno (2017).

<sup>14</sup> For Latin, see e.g. Herman (2000:87–90); for Coptic, see e.g. Layton (2004:420–430).

<sup>15</sup> Cf. Hesseling (1892:13).

<sup>16</sup> For the polyfunctionality and ambiguity of the complementation system, see already Kurzová (1968:112).

<sup>17</sup> See further §2.

<sup>18</sup> I refer to ‘Early Post-classical Greek’ as the period from the third until the first century BC.

<sup>19</sup> Groups of texts that have been collected in antiquity for sentimental or other reasons, see e.g. Vanderpe (2009). An overview of these archives and the texts they contain can be found at <http://www.trismegistos.org/arch/index.php>.

<sup>20</sup> To be more specific, I have studied 1334 letters and 395 petitions.

contained within archives stemming from Karanis, Oxyrhynchus and Aphrodito, yielding another 483 texts. In total, this corpus contains over 4000 infinitival complement clauses, and should therefore give us a good image of (developments in) infinitival complementation in Post-classical and Byzantine Greek.

The article is structured as follows. In §2, I discuss some key theoretical concepts for the study of complementation. In §3, I give a brief overview of the Classical complementation system. In §4, I discuss two types of ambiguity that can be found in Post-classical and Early Byzantine Greek: ‘temporal’ (§4.1) and ‘modal’ (§4.2) ambiguity. I conclude the article in §5.

## 2. Complementation: key concepts

For the sake of clarity, I briefly discuss some concepts that are central to the study of complementation, and their application to Ancient Greek.<sup>21</sup>

i. **Complement-taking verbs.** Ranging from the four proposed by Halliday & Matthiessen (1999:128) to the more than thirty proposed by Levin (1993), various classifications have been made of verb classes. Specifically with regard to complement-taking verbs, studies by Cristofaro (2003) and Noonan (2007) distinguish between *verbs of ordering* such as ‘order’, ‘command’, *manipulative verbs* such as ‘force’, ‘permit’, ‘convince’, *verbs of mental state* such as ‘know’, ‘understand’, ‘remember’, *verbs of perception* such as ‘see’, ‘hear’, *psychological verbs* such as ‘regret’, ‘want’, and *verbs of communication* such as ‘say’, ‘declare’, ‘claim’ among others.

With regard to Ancient Greek, I have recently proposed to group the above-mentioned verb classes into four major categories<sup>22</sup> – *verbs of ordering and manipulative verbs*, *verbs of mental state and perception*, *psychological verbs*, and *verbs of communication* – a proposal which I will further refer to in §3. Van Emde Boas & Huitink (2010: 143) additionally refer to a number of verb classes which take the bare infinitive: *phasal verbs* such as ‘begin to’, ‘continue to’, and *ability verbs* such as ‘can’, ‘be able’.

<sup>21</sup> See further Ransom (1986); Horie (2001); Miller (2002); Cristofaro (2003); Noonan (2007); Halliday & Matthiessen (1999; 2014:428–556).

<sup>22</sup> See Bentein (2017a).

ii. **Speech function.** Halliday & Matthiesen (2014:134–139) argue that independent clauses can have four major speech functions: *offer* ('shall I give you this teapot?'), *command* ('give me that teapot'), *statement* ('he's giving her the teapot'), and *question* ('what is he giving her?'), which they classify into two major types: *proposals* (offer/command) and *propositions* (statement/question). They furthermore argue that these speech functions can be found not only in main, but also in complement clauses: contrast, for example, 'he ordered her to give the teapot' (proposal) with 'he said that she gave the teapot' (proposition).

In previous studies on Ancient Greek complementation, a similar distinction is made:<sup>23</sup> following the seminal study of Kurzová (1968), scholars distinguish between 'declarative infinitives' (corresponding to propositions) and 'dynamic infinitives' (corresponding to proposals).<sup>24</sup> In this article, I will continue to use Halliday & Matthiesen's (2014) terminology, which is not only more specific, but also has less potential for confusion.<sup>25</sup>

iii. **Temporal orientation.** There are three main possibilities for the temporal orientation of the complement clause: *anterior*,<sup>26</sup> *simultaneous*, or *posterior* to the time of the matrix clause (contrast e.g. 'he says that he has done that', 'he says that he is doing that', and 'he says that he will be doing that'). Not all verbs can be followed by anterior, simultaneous and posterior complements, however: some verbs have what Noonan (2007:58) refers to as 'determined time reference': for example, verbs of ordering are always followed by a complement clause which is posterior to the time of ordering.<sup>27</sup>

<sup>23</sup> Note that the distinction is syntactically reflected in the choice for a negation (cf. e.g. van Emde Boas & Huitink 2010:144): propositions take οὐ(κ), whereas proposals take μή.

<sup>24</sup> For some recent studies, see e.g. Rijksbaron (2002), van Emde Boas & Huitink (2010); Kavčič (2016, 2017, *forthc.*). Rijksbaron (2002:97) offers the following definition of the declarative infinitive: 'with verbs of saying and thinking the infinitive represents a statement or thought of the subject of the main verb concerning some state of affairs in the "real" world'. With the dynamic infinitive, on the other hand, 'the infinitive constitutes the content of the will, desire, ability, etc. of the subject of the main verb; the infinitive expresses, therefore, a potential state of affairs and is, thus, *always posterior* to the main verb'.

<sup>25</sup> Rijksbaron (2002:97–98), for example, connects the 'declarative infinitive' to verbs of saying and thinking, but these can also be followed by a dynamic infinitive. Rijksbaron (2002:98) seems to be aware of the disadvantages of the terms 'dynamic' and 'declarative'.

<sup>26</sup> The term 'anterior' should not be understood here in terms of 'current relevance' (see e.g. Dahl & Hedin 2000), as it often is.

<sup>27</sup> Compare van Emde Boas & Huitink (2010:144) on Ancient Greek.

iv. **Epistemic orientation.** Several studies have argued that complement clauses can carry epistemic value. Halliday & Matthiessen (2014:50–548), for example, distinguish between two types of complement clauses: *reports*, which can be either ‘locutions’ (as in ‘he said that John was dead’) or ‘ideas’ (as in ‘he thought that John was dead’), and *facts* (as in ‘he regretted that John was dead’). Facts differ from reports in that the speaker presupposes the truth value of the complement clause.<sup>28</sup>

Studies on Ancient Greek complementation have drawn attention to the importance of ‘factivity’<sup>29</sup> when it comes to the choice of a complementation pattern: Cristofaro (1996), for example, has argued that infinitival complement clauses are non-factive in nature, *ὅτι*-clauses and participial complement clauses on the other hand being factive.<sup>30</sup>

v. **Semantic integration.** As studies have shown, there can be various degrees of interconnection between the matrix clause and the complement clause: for example, with causative verbs such as ‘make’, ‘there is a tight interconnection between the act of causation and the SoA resulting from this act’ (Cristofaro 2003:117–118). Such interconnection has been studied under the heading of ‘semantic integration’, a term introduced by Givón (1980), who ranks complement-taking verbs in terms of their semantic integration, and draws attention to *participant co-reference* and *spatio-temporal contiguity* as dimensions underlying semantic integration.

In his 1980 study, Givón postulates a ‘Binding Principle’, arguing that semantic integration between events is reflected by the morpho-syntactic integration between clauses. Cristofaro (1996) has explored the relevance of this principle with regard to Ancient Greek. To be more specific, Cristofaro (1996) has argued that in Ancient Greek non-finite complementation is typically used when semantic integration is high; when semantic integration is low, finite complementation patterns tend to be used.

<sup>28</sup> Davidse (2003) argues for a more complex understanding of ‘facts’ and ‘factivity’, distinguishing between ‘speaker-facts’, ‘processer-facts’, and ‘speaker-and processer-facts.’ I will not go further into this distinction here.

<sup>29</sup> Cf. Kiparsky & Kiparsky (1970).

<sup>30</sup> Compare Rijksbaron (2002:50–51); Huitink (2009); Bentein (2015, 2017a); van Rooy (2016:17–27).

### 3. Infinitival complementation in Classical Greek

On the basis of the concepts described in §2, we can draw up the following schematic representation of infinitival complementation in the Classical period.<sup>31</sup>

*Table 1:* Schematic overview of infinitival complementation in the Classical period<sup>32</sup>

	Proposition			Proposal			
	ANT	SIM	POST	ANT	SIM	POST	
<i>Manipulative verbs &amp; verbs of ordering</i>	—	—	—	—	—	Command AOR/PRES	Offer —
<i>Verbs of perception &amp; mental state</i>	PERF	PRES	FUT	—	—	—	—
<i>Psychological verbs</i>	PERF	PRES	FUT	—	—	AOR/PRES	FUT
<i>Verbs of communication</i>	PERF	PRES	FUT	—	—	AOR/PRES	FUT

As Table 1 shows, psychological verbs and verbs of communication can be followed by both propositions and proposals. Verbs of perception and mental state can only be followed by propositions. Manipulative verbs and verbs of ordering, on the other hand, only take proposals.

In terms of temporality, propositions can be anterior, simultaneous or posterior. For anterior propositions, the perfect infinitive is typically used; for simultaneous propositions, the present infinitive; and for posterior propositions the future infinitive. This is illustrated by the following three examples from Herodotus:<sup>33</sup>

- (1) Ὁ δὲ Ἀρτεμβάρης ὀργῇ ὥς εἶχε ἐλθὼν παρὰ τὸν Ἀστυάγεα καὶ ἅμα ἀγόμενος τὸν παῖδα ἀνάρσια πρήγματα **ἔφη πεπονθέναι** (Hdt. 1.114.5)<sup>34</sup>

<sup>31</sup> Note that this overview does not include verb classes that are always followed by the bare infinitive, as well as impersonal verbs.

<sup>32</sup> Here and elsewhere, ‘ANT’ stands for anterior, ‘SIM’ for simultaneous, and ‘POST’ for posterior.

<sup>33</sup> For further examples, see e.g. Goodwin (1966[1875]:37–47).

<sup>34</sup> The verbs in the matrix and complement clause are indicated in bold for the sake of clarity. Translations are my own unless otherwise indicated.

“And Artembares in the anger of the moment went at once to Astyages, taking the boy with him, and he declared that he had suffered things that were unfitting”. [tr. Macaulay]

- (2) Ὁ δὲ καὶ **γινώσκειν** ἔφη καὶ ἀρεστὸν **εἶναι** πᾶν τὸ ἂν βασιλεὺς ἔρδῃ (Hdt. 1.119.7)

“And he said that he knew, and that whatsoever the king might do was well pleasing to him”. [tr. Macaulay]

- (3) Ἀμομφάρετος δὲ ὁ Πολιάδεω λοχηγέων τοῦ Πιτανήτεω λόχου **οὐκ ἔφη** τοὺς ξείνους **φεύξεσθαι** (Hdt. 9.53.2)

“Amompharetos the son of Poliades, the commander of the Pitane division, said that he would not flee from the strangers”.

In addition, the perfect infinitive can also be used to denote simultaneous propositions, when its value is resultative/stative. The aorist infinitive can also be used to denote anterior propositions, but less frequently, according to a number of authors.<sup>35</sup> An example of each use can be found below:

- (4) Ὁ δὲ Ἄρπαγος **ἔφη** **εἰδέναι** μὲν εὖ τὰ ἐκεῖνοι μέλλοιεν ποιεῖν (Hdt. 1.164.3)

“Harpagos said that he knew very well what they were meaning to do”. [tr. Macaulay]

- (5) **Ἔφη** δὲ ὁ Θέρσανδρος **κληθῆναι** καὶ αὐτὸς ὑπὸ Ἀτταγίνου ἐπὶ τὸ δεῖπνον τοῦτο, **κληθῆναι** δὲ καὶ Θηβαίων ἄνδρας πεντήκοντα (Hdt. 9.16.1)

“This Thersander said that he too had been invited by Attaginos to this dinner, and there had been invited also fifty men of the Thebans”. [tr. Macaulay, slightly modified]

There has been some debate about whether the present and aorist tense directly encode temporality (what is called ‘relative tense’), or whether this is a side effect of their aspectual value. Ruijgh (1985; 1999) and Rijksbaron (2002) are among the most well-known proponents of the former view.<sup>36</sup> Most Greek linguists nowadays adhere

<sup>35</sup> Cf. Kavčič (forthc.:2), referring to Rijksbaron (2002:98). Surprisingly, however, Kavčič’s (forthc.:14) figures show that ‘the perfect infinitive ... is more common in ACI clauses or *equally common* as the aorist infinitive’ (my emphasis).

<sup>36</sup> Other proponents are Martínez Vázquez (1995); Miller (2002:34–36); Fykias & Katsikadeli (2013); de la Villa (2014).



to the second position, however.<sup>37</sup> In §4, we will see that the data presented in this article support this second position.

Proposals are restricted in temporal reference: they have determined time reference, and always refer to the future. For the expression of commands, only the present and aorist tense are used. As van Emde Boas & Huitink (2010:144) note, there is an aspectual difference between the two, similar to that in independent clauses.

For offers, the future infinitive is typically used,<sup>38</sup> although the present and aorist infinitive can, on occasion, also be found.<sup>39</sup> Such variation can be seen in the following two examples, both of which have a form of ἐλπίζω in the main clause, and of αἰρέω in the complement clause:<sup>40</sup>

- (6) ἐλπίζοντες τὸ κατὰ τὸν λιμένα τεῖχος ... ἐλεῖν <ἄν> μηχαναῖς (Thuc. 4.13.1)

“Hoping by their help to take the part of the fort looking towards the harbour”. [tr. Jowett]

- (7) ἐλπίζοντες ῥαδίως αἰρήσειν οἰκοδόμημα διὰ ταχέων εἰργασμένον καὶ ἀνθρώπων ὀλίγων ἐνόντων (Thuc. 4.8.4)

“Hoping easily to win it, being a thing built in haste and not many men within it”. [tr. Hobbes]

#### 4. Infinitival complementation in Post-classical & Early Byzantine Greek (I–VIII AD)

##### 4.1. Temporal ambiguity

In comparison with the Classical period, the expression of anterior, simultaneous and posterior propositions changed quite profoundly in the Post-classical and Byzantine periods, due to the decline of the future and perfect tense. Of these two tenses, the future was the first to disappear: its decline is typically related to phonetic factors,<sup>41</sup> that is, the leveling of -ει with -ηι and of -ο with -ω, which made the future indicative and aorist subjunctive identical in the active paradigms of

<sup>37</sup> See e.g. Joseph (1983:37); Binnick (1991:95); Napoli (2014); Mendez Dosuna (2017).

<sup>38</sup> See e.g. Kurzová (1968:56).

<sup>39</sup> E.g. Goodwin (1966[1875]:31): ‘when they [verbs of hoping, expecting, promising, and swearing] refer to a future object, they naturally take the future infinitive, but may also have the present or aorist infinitive’.

<sup>40</sup> I borrow these examples from Kurzová (1968:56).

<sup>41</sup> See e.g. Bentein (2014).

various verb classes. It was gradually replaced by a number of future periphrastics, including constructions with the auxiliary verbs εἰμί, μέλλω, and ἔχω.<sup>42</sup> Contrary to the future tense, the perfect tense underwent a rise in frequency<sup>43</sup> in Early Post-classical times: it was no longer limited to the expression of stativity/resultativity (as in λέλυμαι “I am released”) or current relevance (as in λέλυκα αὐτόν “I have released him”), but also became used with a perfective value, as indicated among other things by its co-occurrence with certain past-tense adverb(ial)s (as in ἀπέσταλκα αὐτόν πρὸς σὲ τῇ ̓ τοῦ Φαρμουῦθι (P.Petr.2.2, 2, ll. 5–6 (222 BC)) “I sent him to you on the sixth of Pharmouthi”),<sup>44</sup> and its co-ordination with aorist tense forms (as in καὶ εἴληφεν ὁ ἄγγελος τὸν λιβανωτόν, καὶ ἐγένευσεν αὐτόν (Apc. 8.5) “and the angel took the censer, and filled it”). This extension of the perfect brought it in competition with the aorist, which eventually led to its decline.<sup>45</sup> In this area, too, a number of periphrastic constructions were used, including those with the auxiliaries εἰμί and ἔχω.<sup>46</sup>

Recent studies have claimed that the above-mentioned developments led to the ‘omission’<sup>47</sup> of temporal distinctions in propositions: Thorley (1989:295–296), for example, writes that ‘by the 1<sup>st</sup> century AD the infinitive construction had in any case lost ground to ὅτι, and though it was far from defunct it was apparently in common usage becoming restricted to statements about a present state’. More recently, Kavčič (*forthc.*) has confirmed this picture: she observes that the percentage of (transitive) anterior perfect infinitives only increases slightly in Early Post-classical texts (in comparison with the Classical period), though not in private letters, and that aorist infinitives seem to be avoided (more so than in the Classical period). Thus, she finds that ‘the assumption that the omission of the aorist infinitive from AcI clauses and (at the same time) the retention of perfect infinitives in AcI clauses both display a tendency towards omitting temporal distinctions and a tendency towards stativity of AcI clauses seems plausible’.<sup>48</sup> James (2008:120) seems to be of the same opinion when

<sup>42</sup> See most recently Markopoulos (2009).

<sup>43</sup> See Duhoux (2000:431) for a statistical overview.

<sup>44</sup> I borrow this example from Bentein (2016:155).

<sup>45</sup> See e.g. Haspelmath (1992); Bentein (2014).

<sup>46</sup> See most recently Bentein (2016).

<sup>47</sup> E.g. Kavčič (*forthc.*:23).

<sup>48</sup> In Kavčič (2016:285–286) this observation is split up in two different hypotheses, one concerning temporality, and the other concerning stativity. Kavčič (2016) argues for a third, radically different hypothesis: here, Kavčič argues that the decline of the aorist infinitive in declarative infinitive clauses is related to the perfect infinitive displaying increasingly prominent temporal features (that is, anteriority).

he writes that ‘it is also clear that the perfect infinitive retained its stative value rather than becoming an alternative for the aorist’, although noting that in the absence of research on the perfect infinitive in later Greek, ‘there is no substantial framework for this observation’.

Although from a cross-linguistic point of view Kavčič’s (*forthc.*) assumption makes sense,<sup>49</sup> I believe that the picture that is drawn in the above-mentioned studies is profoundly distorted. In what follows, I argue that rather than there being an ‘omission’ of temporal properties, the present and aorist infinitive became polyfunctional, and propositions therefore temporally ambiguous.

When it comes to the expression of posteriority, it should be stressed that the future tense is not completely unattested in documentary texts, especially not in Roman times. It can be found after various verb classes, including psychological verbs such as πείθομαι ‘I am convinced’ (e.g. BGU.16.2623, ll. 10–11 (10 BC)) and προσδοκάω ‘I expect’ (e.g. P.Ammon.2.34, ll. 9–10 (348 AD)), and verbs of communication such as βεβαιόω (e.g. SB.1.5247, ll. 12–13 (47 AD)) ‘I confirm, guarantee’ and ὁμολογέω ‘I acknowledge’ (e.g. P.Lips. 2.130, ll. 31–36 (16 AD)). Much more frequent, however, was the use of the present infinitive with a posterior value. This type of present, which is known as *praesens pro futuro* or ‘futuristic’ present, can already be found in the Classical period,<sup>50</sup> where it was especially frequently used in oracles, with the prophet as it were seeing the events happening before his eyes. In Post-classical times, this use increased in other contexts as well,<sup>51</sup> not only in main clauses,<sup>52</sup> but also in subordinate (complement) clauses, as illustrated in (8):

- (8) τὸ ἀσπούδαστόν σου οὐ νῦν ἔμαθον ἀλλὰ καὶ ἐκ τότε ἀφ’ οὗ μοι  
ἔλεγεῖς πέμπειν τὰ ξύλα (P.IFAO.2.17, ll. 3–6 (III AD))

<sup>49</sup> For example, in terms of Givón’s (1980) earlier-mentioned ‘Binding Principle’, it makes sense that non-finite forms express fewer temporal distinctions than finite ones. As Kavčič (2016:287) notes, however, infinitives expressing temporality are attested in several other languages, including Dutch.

<sup>50</sup> See e.g. Kühner & Gerth (1976[1898]:138); Sánchez Barrado (1934; 1935); Schwyzler (1950:273); Wackernagel (2009[1926/1928]:203–209).

<sup>51</sup> See e.g. Hult (1995:163–164): ‘in Classical Greek the present indicative is sometimes used to denote future time ... this usage continued in the Ptolemaic papyri and the New Testament; it steadily increased in Roman and Byzantine times’. Sánchez Barrado (1934:201) notes that the *praesens pro futuro* was rather uncommon in Ancient (that is, Archaic and Classical) Greek.

<sup>52</sup> On the use of the futuristic present in main clauses in Post-classical Greek, see e.g. Mandilaras (1973:102–107); Blass & Debrunner (1979:266–267); Poppe (1988).

“Ton manque d’empressement, ce n’est pas d’aujourd’hui que je l’ai connu mais du jour où tu me disais que tu allais m’envoyer les bois”. [tr. Wagner]

In a recent article, de Melo (2007) has discussed the use of the *prae-sens pro futuro* in Latin non-finite structures, observing that it mainly occurs in the following three contexts: (i) after verbs of speech and *sperare* “hope”; (ii) with telic verbs; (iii) when there is coreferentiality of the matrix and complement clause. De Melo (2007:115) connects the use of the present infinitive with a future meaning to the diachrony of the Latin future infinitive: before the creation of the latter, the present infinitive was a ‘non-past’ infinitive, which could be used for both present and future events. In our corpus, we witness the reverse development: following the loss of the future infinitive, the present infinitive became increasingly used for future events, too.

As can be seen, our previous example (8) meets de Melo’s criteria quite well: ἔλεγεσ is a verb of speech (criterium (i)), πέμπειν a telic verb (criterium (ii)), and there is co-referentiality between ἔλεγεσ and πέμπειν (criterium (iii)). In Post-classical Greek, however, the present infinitive expressing posterior events is used quite frequently in other contexts as well: it can be found after mental state verbs such as οἶδα “I know” (e.g. P.Neph.2, ll. 6–8 (IV AD)), and psychological verbs such as θαρρῶ “I trust” (e.g. P.Neph.10, ll. 10–12 (IV AD)) and νομίζω “I believe” (e.g. P.Mert.2.91, l. 12 (316 AD)). It occurs mostly with telic verbs, but also with atelic, stative verbs such as διασώζω “I preserve” (e.g. P.Sakaon.48, ll. 5–6 (343 AD)); ἐμμένω “I stay with” (e.g. P.Michael.55, B, l. 4 (582–602 AD)); εὐδοκέω “I consent” (e.g. SB.1.5231qtpl, ll. 14–17 (11 AD)); and ἐπιμένω “I remain” (e.g. P.Brem.55, 6–7 (II AD)). It is found not only in co-referential contexts, but also in non-coreferential ones (e.g. P.Wisc.1.33, l. 4 (147 AD); P.Lond.6. 1928, l. 7 (IV AD)).

Although they have received little attention so far, formulaic phrases provide an interesting context to analyze the impact of these changes. For example, many contracts contain an acknowledgment formula, with ὁμολογῶ “I acknowledge” or συγχωρῶ “I agree” acting as a complement-taking verb. Whereas in Roman times the future infinitive is standard in this type of formula, in Byzantine times it is almost never used.<sup>53</sup> For illustration, consider the following two examples:

<sup>53</sup> For some exceptions, see e.g. Stud.Pal.20.122, ll. 10–12 (439 AD?); P.Oxy.63.4397, l. 178 (545 AD).

- (9) Ἡρακλείδης Μάρωνος **ὁμολογῶι παρέξεσθαί** με τὴν θυγατέραν μου Ἀρσινόην εὐδοκοῦσαν τῇ πράσι ὅποτε ἐὰν τελεῖται καθὼς πρόκειται μηθὲν λαμβάνουσιν (P.Mich.5.266, ll. 22–26 (38 AD))

“I, Herakles, son of Maron, agree to render my daughter Arsinoe agreeable to the sale whenever it shall be completed as stated above without her receiving anything”.

- (10) ταῦθ’ οὕτως ἔχειν **δόσειν ποιεῖν φυλάττειν ἐμμένειν** διηνεκῶς εἰς πέρας **ἄγειν** ὁμολογήσαμεν (P.Mich.13.667, ll. 32–33 (VI AD))

“We agreed that these things were so, and so to give, do and keep, to abide for ever and to bring to an end”. [tr. Sijpesteijn]

Note how in the first of these examples (from the first century AD) ὁμολογῶ is followed by the future infinitive *παρέξεσθαί*, whereas in the second example (from the sixth century AD) ὁμολογῶ takes four present infinitives, and, quite surprisingly, also one future infinitive, *δόσειν*.<sup>54</sup> While it may be true, as Kavčič notes, that in Byzantine times the future infinitive does not seem to be replaced by innovative periphrastic future forms, it is obviously not the case that ‘AcI clauses could no longer convey posteriority’ (Kavčič *forthc.*:6).

When it comes to the expression of anteriority, the perfect infinitive remained quite frequent in use. As Kavčič (*forthc.*) notes, it was much more frequently used than the aorist infinitive.<sup>55</sup> The perfect infinitive denotes anterior propositions after various verb classes, including verbs of communication such as γράφω “I write” (e.g. BGU.16.2635, ll. 8–9 (ca. 21 BC – 5 AD)); λέγω “I say” (e.g. P.Ryl.2.pg381, ll. 4–5 (40 AD)); μνηύω “I declare” (e.g. P.Giss.61, ll. 7–8 (119 AD)); φημί “I say” (e.g. P.Brem.13, ll. 3–4 (II AD)); psychological verbs such as δοκέω “I think” (e.g. P.Ryl.2.230, 10 (40 AD)); κρίνω “I judge” (e.g. P.Sarap.88, ll. 7–8 (II AD)); νομίζω “I believe” (e.g. P.Abinn.9, ll. 6–7 (342–351 AD)); ὑπονοέω “I suspect” (e.g. P.Ryl.2.139, 14–16 (34 AD)); and verbs of perception such as μανθάνω “I learn” (e.g. P.Mich.6.423, l. 11 (197 AD)). Since the aorist infinitive seems to have been avoided already in Classical times for anterior propositions,<sup>56</sup> one could ask what the reason for this avoidance might have been: rather than attributing it to a tendency for ‘stativity’, or the omission of temporal distinctions (see above), I would like to suggest

<sup>54</sup> There seems to be a correlation with *Aktionsart*, *δόσειν* being the only achievement verb.

<sup>55</sup> E.g. Kavčič (*forthc.*:5): ‘perfect infinitives are significantly more common than aorist infinitives in both NT Greek and in the contemporary non-literary papyri’.

<sup>56</sup> Cf. §3.

that the aorist tense was less frequently employed because (i) the aorist infinitive was already used quite frequently for proposals, not only after verbs of ordering, but also after verbs of communication;<sup>57</sup> (ii) the perfect infinitive could be used as a specialized device conveying anteriority, whereas the aorist was ambiguous between a perfective or a current relevance interpretation.<sup>58</sup>

Nevertheless, it should be noted that the use of the aorist infinitive signaling anteriority is certainly not absent from our corpus, as Kavčič (*forthc.*:15) seems to suggest:<sup>59</sup> ‘neither the NT nor the contemporary non-literary papyri contain convincing instances of aorist infinitives used in AcI clauses’.<sup>60</sup> For example, many instances in our corpus are attested after verbs of communication, including γράφω ‘I write’ (e.g. P.Mich.8.485, ll. 3–4 (II AD)); δείκνυμι ‘I show’ (e.g. P.Flor.2.254, ll. 22–23 (259 AD)); δηλόω ‘I make clear’ (e.g. P.Rain.Cent.67, l. 6 (234 AD)); διαβεβαιόω ‘I confirm’ (e.g. P.Oxy.63.4397, l. 81 (545 AD)); ὁμολογέω ‘I acknowledge’ (e.g. P.Oxy.63.4397, ll. 133–137 (545 AD)); ὑπομινύσκω ‘I remind’ (e.g. P.Prag.1.103, ll. 3–5 (249–260 AD)); φανερόν ποιέω ‘I make clear’ (e.g. SB.14.11381, 2, l. 19 (115–117 AD)); φημί ‘I say’ (e.g. SB.6.9102, ll. 8–13 (547–549 AD)); etc. The aorist infinitive is also attested after mental state verbs such as γινώσκω ‘I know’ (e.g. P.Ryl.2.237, ll. 13–14), and after verbs of perception such as ἀκούω ‘I hear’ (e.g. P.Kell.1.76, ll. 25–27 (IV AD)).

That the use of the aorist in these examples should be a higher-register feature, as Kavčič (2016:280–281) claims, seems somewhat difficult to maintain, although some of the texts do clearly originate from a higher social stratum.<sup>61</sup>

Again, formulaic phrases show interesting signs of variation. For example, in the disclosure formula introduced by γείνωσκε ‘know’ or θέλω σε γινώσκειν ‘I want you to know’, where the perfect infinitive

<sup>57</sup> See further §4.2.

<sup>58</sup> Compare Kavčič (2016:293): ‘it can be argued that the decline of the aorist infinitive in DeclarInfCl is related to the aspectual nature of the latter, which led to the perfect infinitive adopting the function of conveying anteriority in DeclarInfCl’.

<sup>59</sup> For the New Testament, Kavčič refers to Burton (1900:53); Thorley (1989: 295); and Fanning (1990: 401). Porter (1989:389) mentions three examples.

<sup>60</sup> Cf. also Kavčič (2016:275): ‘in the corpus of the non-literary papyri contemporary with the NT there is hardly a convincing example to be found of an aorist infinitive in a DeclarInfCl’.

<sup>61</sup> See for example P.Oxy.63.4397 (545 AD), a settlement of claims between the coenobitic monastery of Abbas Hierax and the former consul Flavius Apion, which contains several anterior aorist infinitives.

is standardly used, we find the aorist infinitive. For illustration, we can contrast the following two examples:<sup>62</sup>

- (11) γ{ε}ίνωσκε τὸν σῖτον ὃν ἀπέστειλές μοι μὴ εἰληφέναι με αὐτόν (BGU.16.2618, ll. 4–5 (7 BC))  
 “You should know that I have not yet received the grain which you sent me”. [tr. Brashear]
- (12) γίγνωσκε, κύριε, παραλα[βεῖν το] ὕς τοῦ Ἀπίωνος διὰ Μύσθου ἐν Ταυρείνου [πυροῦ ἄρ]τάβας ὀγδοήκοντα (P.Ryl.2.237, ll. 13–15 (III AD))  
 “Know, Lord, that the people from Apion have received through Mysthus in Taurinus the eighty artabs of wheat”.

In both of these examples, the imperative γίνωσκε is followed by a form of the verb λαμβάνω: in (11) by the perfect infinitive εἰληφέναι, but in (12) by the aorist infinitive παραλαβεῖν.

As for Byzantine times, Kavčič (*forthc.*:24) notes that ‘in diachronic terms, there was a strong tendency toward AcI clauses expressing simultaneous states (and omitting temporal distinctions). Even if it is assumed that the perfect infinitive replaced the aorist infinitive in the function of conveying anteriority, AcI clauses conveying anteriority are very rare in this period’, and that ‘even if it is assumed that some perfect infinitives could convey anteriority, AcI clauses containing such infinitives display decreasing tendencies between the third century BC and the first century AD and become even less common in subsequent periods’ (*forthc.*:26). This observation, too, should be taken *cum grano salis*: (i) as we have seen, the aorist did substitute for the perfect tense to some extent; (ii) in formal writing (contracts and petitions, that is), the perfect infinitive continues to form the standard for anterior propositions, both in formulaic and non-formulaic phrases; and (iii) even in private letters, the perfect infinitive continues to appear after various verb classes, including verbs of mental state such as γινώσκω “I know” (e.g. P.Neph.8, l. 4 (IV AD)) and οἶδα “I know” (e.g. CPR.17A.39, l. 8 (IV AD)); verbs of communication such as διαβεβαιόω “I confirm” (e.g. CPR.8.29, ll. 3–4 (IV AD)); and psychological verbs such as νομίζω “I believe” (e.g. P.Abinn.9, 6–7 (342–351 AD)), though not after the fourth century AD.

<sup>62</sup> In some other examples, the perfect and aorist infinitive are co-ordinated. See e.g. P.Rain.Cent.65dupl, ll. 5–10 (234 AD): δηλοῦμεν μηδὲν εἶρην [ἀνήκ]ον σημαίνει ... μηδένα δὲ ... ἐγκαταλείπειν τὰς [θρ]ησκείας “we are disclosing that we have found nothing that should be reported, and that nobody has abandoned the religious worship”.

So far, we have seen that the present infinitive came to be used for future propositions (very frequently), and the aorist infinitive for anterior propositions (less frequently). Interestingly, however, this is not a one-to-one correspondence: we also find examples where the aorist infinitive is used to refer to posterior events, and the present infinitive to anterior ones, attesting to an increasing temporal ambiguity. Although the former use has not been generally recognized (at least not for documentary texts),<sup>63</sup> it occurs strikingly frequently. For example, in the above-mentioned ὁμολογῶ-formula, we find the aorist infinitive next to the present infinitive expressing posterior events.<sup>64</sup> Consider the following passage:

- (13) **ἀνθομολογεῖ** δὲ καὶ ἡ προγεγραμμ[ένη Εὐπρέπεια] **συνοικεῖν** τῷ προγεγραμμένῳ θαυμασιωτ(άτῳ) [[Ἀκυλλίνῳ]] ἀκαταγνώστῳ, καὶ **ὑπακούειν** αὐτοῦ ἐν ᾧ αἰσι, **ἀκολουθεῖν** δὲ αὐτῷ ὅπου δ' ἂν βουληθεῖ ἐν ταύτῃ τῇ ἐπαρχίᾳ καὶ μέχρι Ἀλεξανδρείας ... καὶ μηδὲν παρὰ τὸ πρέπον **διαπράξασθαι** (P.Cair.Masp.3.67340r, ll. 41–47 (VI AD))

“And the afore-mentioned Euprepeia agrees that she will live together with the afore-mentioned most admirable Acyllinus unexceptionably, and that she will obey him in everything, and that she will follow him wherever he wants to go in this eparchy even up to Alexandria ... and that she will do nothing that is unfitting”.

In this example, both present and aorist infinitives refer to future events. The choice for one or the other seems to be related to *Aktions-art*, the present being used for stative events (συνοικεῖν “to live with”, ὑπακούειν “to obey”), and the aorist for dynamic ones (ἀκολουθεῖν “to follow”, διαπράξασθαι “to do”).

After psychological verbs, we find similar examples of the aorist infinitive referring to posterior events: after οἶομαι “I believe” ([οἰ]ῶμενος [ἐ]κτελέσαι μετὰ σοῦ πάντα τὸν τῆς ζωῆς μου [χ]ρόνον “thinking that I would spend my entire life with you”; P.Cair.Masp. 2.67155, ll. 12–13 (VI AD)); προσδοκάω “I expect” (μηδὲν κακὸν προσδοκῆ[σαντός μου ὑπὸ τούτων παθεῖν “I expected to suffer no wrong at their hands”; P.Cair.Isid.74, ll. 10–11 (315 AD)); ἐπικλάω “I

<sup>63</sup> For Polybius, see e.g. Hesselning (1892:10) and de Foucault (1972:157–158); for the New Testament, see e.g. Burton (1900:53). Hesselning (1892:12–13) notes that he cannot find any examples in inscriptions or papyri.

<sup>64</sup> It is interesting, in this regard, that already at an early stage we find examples with mixed future-aorist morphology after ὁμολογῶ: ἐπελεύσασθαι (e.g. SB.1. 5231qtpl, l. 18 (11 AD); P.Mich.6.427, l. 20 (138 AD)); παρέξασθαι (e.g. P.Mich.15.707, l. 15 (II/III AD); P.Mich.12.636rpdupl, l. 11 (302 AD)).



am sorry” (ἐπικλάσω ἐγὼ αὐτὴν ... παρασχεῖν “I will be sorry that you will provide”;<sup>65</sup> P.Amh.2.154, ll. 9–10 (VI–VII AD)); δοκέω “I believe” (εἶνα δόξης ἄνευ νομίμων ἡμᾶς ἀποθεῖσθαι “so that you suppose that we shall be illegally ousted”; P.Fay.124, ll. 18–19 (III AD)); etc.

Already in Classical times, variation between the aorist and the future infinitive was common after verbs such as εὔχομαι “I pray”, ἐλπίζω “I hope”, ἐπιδέχομαι “I accept”,<sup>66</sup> that is, for offers. After verbs of saying and thinking, however, examples are very uncommon, as noted by Kühner & Gerth (1976[1898]:195): ‘selten und, wenigstens bei den Prosaikern, kritisch nicht unanfechtbar, nach den übrigen Verben<sup>67</sup> des Sagens und Meinens’.<sup>68</sup> In an older stage of the language, however, when the future infinitive was not yet common, such examples do occur: ‘es ergibt sich hieraus, dass der Infinitiv des Aorists zwar in der ältesten Sprache, seiner zeitlosen Natur entsprechend, noch unterschiedslos für alle drei Zeiten gebraucht, allmählich jedoch durch den jüngeren Infinitiv des Futurs ... aus einem Teile seines Besitzstandes verdrängt wurde’ (Kühner & Gerth 1976[1898]:197).<sup>69</sup> In Post-classical Greek, we again see a reversal of the situation, as was the case with the present infinitive.

Kavčič (2016:283) has suggested that morphological confusion between the aorist and future infinitive may have had an impact on the temporal and aspectual properties of the aorist infinitive, the latter no longer being able to convey anteriority. However, since this confusion does not concern all future and aorist forms, as Kavčič (2016:284) admits, and since quite a few examples are attested where the aorist does convey anteriority, a different hypothesis may be preferable (although, of course, morphological confusion may have provided a stimulus, cf. Hesseling 1892:12). I would suggest that verbs such as the above-mentioned ἐλπίζω, whose complement has the epistemic orientation of an offer, provided a bridging context for the extension of the aorist infinitive to posterior propositions. Kurzová (1968:55) for example, considers complements of verbs such as ὁμνυμι, ἐλπίζω and ὑπισχνέομαι as declarative. She explicitly acknowledges that constructions with these verbs ‘an der Grenze zwischen beiden Typen stehen’

<sup>65</sup> αὐτὴν is used as a polite form of address in this example. See Bentein (2017b) for further details.

<sup>66</sup> Cf. §3.

<sup>67</sup> That is, not including expressions such as εἰκός ἐστι, ἐλπίς ἐστι etc.

<sup>68</sup> Schwyzler (1950:296), however, cites some examples from Classical Greek prose (from writers such as Herodotus, Lysias, Isocrates, Plato, etc.). Contrast Stahl (1907:204ff.), who attributes the existence of such cases to scribal mistakes.

<sup>69</sup> Compare Schwyzler (1950:296–297); Chantraine (1953:307).

(Kurzová 1968:56), and suggests that historically these verbs aided in the transition from dynamic to declarative infinitive.<sup>70</sup>

There are much fewer examples of the present infinitive referring to anterior events, the so-called *praesens pro perfecto*, which typically occurs with verbs that ‘denote a present state or condition persisting from a past act’ such as ἔχω ‘I have’, ἀκούω ‘I hear’, ἤκω ‘I am present’, etc. (Mandilaras 1973:99).<sup>71</sup> For illustration, consider the following example:

- (14) γεινῶσκε ἐρωτον τὸν παρὰ Λ<ο>ύπου τοῦ στρατηγοῦ ἐγβάλλειν ἀνθρώπους ἐπὶ τὰ χώματα (BGU.16.2602, ll. 5–7 (14–13 BC))

‘You should know that Eros, the subordinate of Lupus, the *strategos*, has sent men to the dikes’. [tr. Brashear]

In this example, ἐγβάλλειν does not refer to an ongoing event: rather, it is anterior to the time of writing. Rather than a perfect or aorist infinitive, however, a present infinitive is used.<sup>72</sup>

In formulaic contexts, we find similar alternations. In the ὁμολογῶ-formula, for example, both the perfect and present infinitive are used, as shown in the following two examples:

- (15) ὁμολογῶ διὰ ταύτης μου τῆς ἐγγράφου ἀσφαλ[εῖ]ας ἐσχηκέναι παρὰ σοῦ ἐν χρήσει διὰ χειρὸς ἐξ οἴκου σου εἰς ἰδίαν μου κα[ί] ἀναγκαία[ν] χρεῖαν χρυσοῦ νομισμάτια ἀπλᾶ δεσποτικά δόκιμα ἀριθμῶ δύο (P.Oxy.16.1891, ll. 4–7 (495 AD))

‘I acknowledge by this my written bond that I have received from you on loan from hand to hand out of your house for my personal and pressing need two unalloyed approved imperial *solidi* of gold’. [tr. Grenfell, Hunt & Bell]

- (16) ὁμ[ο]λογεῖ Αὐρήλ[ιος] Ἡρᾶς Μέλανος μητρὸς Ἀδωρᾶ ἀπ[ὸ] κόμης Καρα[ν]ίδος ἔχειν παρὰ τοῖς Αὐρηλίοις Ἰσι[δ]ώρου Πτολεμαίου καὶ Ἀντωνίου Ἀντωνίου καὶ Κασσιανός Σαπρού καὶ τῶν κοινοῶν πάντων σιτολόγων ἀπὸ τῆς αὐτῆς κόμης Καρανίδος εἰς δάν[ει]ον τὰς τοῦ πυροῦ ἀρταβῶν ἕξ, (ἀρτάβας)ς, καὶ ἡμιολίας τῶν αὐτῶν (ἀρτάβας) γ (P.Cair.isid.95, ll. 1–7 (310 AD))

‘Aurelius Heras, son of Melas and Adoras, of the village of Karanis, acknowledges that he has received from Aurelius Isidorus, son of Ptolemaeus, Aurelius Antonius, son of Antonius, Aurelius

<sup>70</sup> Compare Kühner & Gerth (1976[1898]:196) on the ‘intermediate’ status of a verb such as ὁμολογέω.

<sup>71</sup> Cf. Mandilaras (1973:99); compare Moorhouse (1982:183–184) on Sophocles.

<sup>72</sup> Though note the similarity between the present infinitive ἐκβάλλειν and the aorist infinitive ἐκβαλεῖν.

Casianus, son of Saprus, and all the associate *sitologoi* of the same village of Karanis, as a loan, the six artabas of wheat, 6 art., and 3 art”. [tr. Boak & Youtie]

Both examples come from loan contracts, in which one party acknowledges to have received from another party a certain amount of money, grain, etc. Note how in the first of these examples, a form of the verb *ὁμολογῶ* is followed by a perfect infinitive (*ἔσχηκέναι*), whereas in the second example it is followed by a present infinitive of the same verb (*ἔχειν*).<sup>73</sup>

To conclude this section, when it comes to the expression of simultaneity, it has been claimed that the present infinitive was mainly limited to stative verbs, especially in Byzantine Greek. Kavčič (*forthc.*:24), for example, writes that ‘with one potential exception, all Acl clauses containing a present infinitive are stative’, and that ‘in terms of the disappearance of the infinitive from Greek, early Byzantine evidence suggests that Acl clauses containing stative present infinitives were the last to be omitted’ (Kavčič *forthc.*:25). To a very large extent, this is, indeed, the case: most examples occur with stative verbs such as *ἀγνοέω* “I am unaware” (e.g. P.Tebt.2.314, l. 3 (II AD)); *ἀγωνιάω* “I am anxious” (e.g. P.Wisc.2.84, 7 (II AD)); *ἀσθενέω* “I am ill” (e.g. P.Brem.48, ll. 11–12 (118 AD)); *δύναμαι* “I am able” (e.g. P.Flor. 3.332, ll. 8–9 (II AD)); *εἰμί* “I am” (e.g. P.Mich.8.496, l. 3 (II AD)); and *χρεωστέω* “I am in debt” (e.g. P.Oxy.72.4930, ll. 10–12 (614 AD)). It should be noted, however, that examples with non-stative present infinitives are not completely absent, not even in the Byzantine period; they can be found with verbs such as *ἀντιποιέομαι* “I lay claim to” (e.g. P.Oxy.49.3464, ll. 20–22 (ca. 54–60 AD)); *γίγνομαι* “I become” (e.g. P.Oxy.16.1868, ll. 3–4 (VI/VII AD)); *διαδέχομαι* “I receive” (e.g. P.Fay.117, ll. 3–4 (108 AD)); *κελεύω* “I order” (e.g. P.Tebt.2.335, l. 15 (ca. 165 AD?)); *πέμπω* “I send” (e.g. P.Oxy. 16.1868, ll. 3–4 (VI/VII AD)); and *ποιέω* “I do” (e.g. P.Sarap.103bis, ll. 2–3 (II AD); P.Abinn.33, ll. 5–6 (342–351 AD)).

#### 4.2. Modal ambiguity

As we have seen in §3, the Ancient Greek infinitive was not restricted to propositions, but could also be used for proposals, a use which

<sup>73</sup> For similar examples, see e.g. P.Mich.10.587, l. 40 (24/25 AD); BGU.2.472, ll. 6–14 (139 AD); P.Cair.Isid.93, ll. 6–12 (282 AD).

historically seems to be the older.<sup>74</sup> With manipulative verbs and verbs of ordering, which always take proposals as their complement, there is little ambiguity. Both the aorist and present infinitive can be found after these verb classes, the aorist being most frequently attested. For illustration, consider (17):

- (17) ἀξιοῦμεν **κελεῦσαι ἐπι[σφραγι]σθῆ[ν]αι** αὐτὰς καὶ **παραφυλάσσεισθαι** [δι' ἐτέ]ρας βοηθείας (P.Brem.26, ll. 12–14 (114–116 AD))

“Wir bitten, zu befehlen, dass sie (die Häuser) [versiegelt] werden und durch eine andere Hilfsmannschaft bewacht werden”. [tr. Wilcken]

This example nicely illustrates the aspectual differences that govern the use of the present vs. aorist infinitive:<sup>75</sup> when there is emphasis on duration, as is the case for παραφυλάσσεισθαι “to guard”, the present infinitive is used.

Other verb classes, however, such as verbs of communication and psychological verbs can be followed by both propositions and proposals. Since the present and aorist infinitive are used for both types of complements, ambiguity can arise with regard to the epistemic orientation of the complement. This ambiguity is further complicated by the fact that the present and aorist infinitive can have multiple temporal interpretations, as we have seen in §4.1. Consider the following two examples:

- (18) ἔμελλον γὰρ ἀνελθῖν ἐπὶ τῆς πόλεως καὶ ἀποδύρασθαι τῷ ἐμῷ γεούχῳ καὶ τῷ πραιποσίτῳ τῶν στρατιωτῶν Καστίνῳ πρὸς τὸ ἐκδικηθῆναί με, ἀλλὰ πρωτοτύπως σοὶ τῷ ἐμῷ δεσπότῃ **ἔγραψα ἐκδικηθῆναί** με (P.Abinn.28, ll. 20–27 (342–351 AD))

“For my intention was to go up to the city and make a complaint to my landlord and Castinus the *praepositus* of the soldiers, so that they should do me justice, but first of all I have written to you, my master, to do me justice”. [tr. Bell *et al.*]

- (19) ὅ]θε[ν εἰς ταύτην ἦκα] [τὴν δευτέραν] δωρεάν, δι' ἧς **ὁμολογῶ** ἐγὼ αὐτῷ[ς] \ὅδ[ε]/σιγγ(ουλάριος(?)), διὰ ταύτης μο(υ) [τῆς] ἐγγράφο(υ) δωρεᾶς, εὐθὺς μετὰ τὴν ἐμὴν ἀποβίωσιν πάντα μο(υ) τὰ ὑπάρχοντα καὶ ὑάρξοντα πράγματα ... **σταλῆναί** σοὶ τῇ α[ὐτῇ]

<sup>74</sup> See e.g. Kurzová (1968:55).

<sup>75</sup> Compare Thorley (1989:292), who considers the aorist infinitive to have been the ‘neutral’ option: ‘when an author has an open choice of using an aorist or a present ... the tendency is to use the aorist unless the author feels a need to stress some linear nuance’.

π]ρ[ογεγρ]αμμένη θυγατρί μου (P.Cair.Masp.2.67154v, ll. 5–10 (527–565 AD))

“Therefore I have come to this second donation, through which I myself, this *singularis*, agree, through this written donation, that immediately after my death all my present and future belongings should be sent to you my aforementioned daughter”.

In the first of these examples, τῷ ἐμῷ δεσπότη ἔγραψα ἐκδικηθῆναι με could be interpreted either as an anterior proposition (“I wrote to my master that I have been done justice”) or as a proposal (“I wrote to my master that I should be done justice”). Moreover, given what we have discussed in §4.1, there is a third possibility: an interpretation as a posterior proposition (“I wrote that I will be done justice”). Context makes it clear,<sup>76</sup> however, that we are dealing with a proposal and not with a proposition. In the second example, too, both epistemic readings are possible: “I acknowledge that my belongings have been sent” (anterior proposition) or “I acknowledge that my belongings should be sent” (proposal). Again, there is a third possibility, an interpretation as a posterior proposition: “I agree that my belongings will be sent”. Since this is a testament, an interpretation as a proposal seems likely, although a posterior proposition cannot be ruled out completely.

As Kurzová (1968) writes, such ambiguity concerning the epistemic status of the complement existed already in the Classical period. She notes that a number of sentential elements helped to distinguish the two types of epistemic orientation:<sup>77</sup> (i) with λέγω, the accusative is used for propositions, and the dative with proposals; (ii) in contexts of negation, οὐ is used for propositions, and μή for proposals; and (iii) the future infinitive is only possible with propositions.<sup>78</sup> For the Post-classical period, however, none of these sentential elements is of any help: (i) there was frequent case interchange between the accusative, genitive, and dative; (ii) the negation μή also occurs in propositions;<sup>79</sup> and (iii) the future tense slowly disappeared; on some occasions, however, it was extended to commands. For illustration, consider the following three examples:

<sup>76</sup> πρὸς τὸ ἐκδικηθῆναι με in particular.

<sup>77</sup> As Kurzová herself notes, however, ‘alle diese Mittel haben jedoch eine beschränkte Geltung und manchmal fehlen formale Merkmale zur Unterscheidung beider Bedeutungen’ (1968:58).

<sup>78</sup> Cf. also Hesselung (1892:10); Chantraine (1953:304).

<sup>79</sup> Cf. Kavčič (2016:292–293), referring to Mayser (1934:552–553).

- (20) τὰ γράμματα τῆς σῆς ἀδελφότητος δεξάμενος, καὶ εὐθὺς **ἔγραψα** τὸν στρατιώτην **ἀποκινήθῃναι** ἀπὸ τοῦ κτήματος αὐτῆς (P.Cair.Masp.1.67067, ll. 1–2 (VI AD))

“Having received the letter from Your Brotherhood, I immediately wrote to the soldier to leave Your property”.

- (21) ἔλεγόν σοι ὅτι γραῦς ἐστὶν καὶ **ἔλεγες** μὴ **εἶναι** αὐτὴν γραῦν (P.Gen.4.172, ll. 7–9 (IV/V AD))

“I told you that it [the camel] was old and you said that it was not old”.

- (22) ἀξιῶ **παραγγεῖλαι** αὐτῷ δι’ ἐνὸς αὐτῶν περὶ σὲ ὑπηρετῶν **ἥξειν** εἰς τὸν ἐπ’ ἀγαθῷ ἐσόμενον διαλογισμὸν Ἀτερίου Νέπωτος τοῦ κρατίστου ἡγεμόνος (SB.5.8001, ll. 7–11 (II AD))

“I ask that he be summoned by one of your officers to come to the beneficent approaching assize of Haterios Nepos the most noble prefect”. [tr. Boak]

According to Classical standards, (20) should mean “I wrote that the soldier has left”. Context makes it clear, however, that we are not dealing with a proposition but with a proposal: the addressor makes it clear to the addressee, Dioscorus, *prōtocomētēs* of the village of Aphroditō, that he has ordered a soldier who was wrongfully lodged in one of his properties to leave. Conversely, in (21), the negation μὴ should indicate that we are dealing with a proposal (“you said that it should not be old”): however, context makes it clear that we are dealing with a proposition, that is, the contents of the addressee’s claim. Finally, (22) shows that the future infinitive also occurs in proposals in Post-classical Greek, though only rarely.<sup>80</sup>

When it comes to the future tense, we have seen in §3 that it was used for one type of proposal: offers. In our corpus, we still find the future tense after verbs such as ἐάω “I allow” (e.g. P.Oxy.48.3421, ll. 12–13 (IV AD)); ἐλπίζω “I hope” (e.g. P.Mil.Vogl.2.76, ll. 8–9 (II A)); ἐπιτρέπω “I allow” (e.g. P.Giss.Apoll.24, 3, ll. 12–13 (ca. 117 AD)); εὐχομαι “I pray” (e.g. P.Herm. 5, ll. 11–12 (317 AD)); and ὑπισχνέομαι “I promise” (e.g. BGU.1.322, ll. 17–18 (216 AD)). As can be expected, however, in offers too the future infinitive was slowly being replaced by the present and aorist infinitive: one finds phrases such as θεοῖς εὐχομε ἀπολαβῖν σε ἐρρωμένον/ (P.Euphrates.17, ll. 2–3 (III AD)) “I pray to the gods that you will receive [this

<sup>80</sup> For similar examples, see e.g. BGU.2.597, ll. 24–25 (75 AD); P.Sarap.90, l. 12 (ca. 98–117 AD); P.Mich.13.667, ll. 48–49, 51–52 (VI AD).

letter] in good health”; αὐτὸν [ἀ]γβλέπει ὁ περίβλεπτος ἀγυροπράτη[ς] κατελθεῖν ἐπὶ Ἀλεξάνδρειαν (P.Oxy.16.1844, ll. 2–3 (VI/VII AD)) “the noble money-changer expects (?) him to go down to Alexandria” (tr. Grenfell, Hunt & Bell); ἐλ[πίζω(?)] [Παῦ]νι κε κατελθεῖν (BGU.1.249, l. 14 (ca. 75–76 AD)) “I hope that I will return on Pauni 25”. The choice for the present vs. aorist infinitive seems to have been aspectually motivated,<sup>81</sup> although there seems to have been free variation as well: for example, in the disclosure formula of the type ‘I want you to know’, we find both γινώσκειν σε θέλω (e.g. SB.6.9120, l. 3 (I AD)) and γνῶναι σε θέλω (e.g. P.Fay.123, ll. 5–6 (100 AD)).

As a result of the disappearance of the future infinitive, the epistemic ambiguity mentioned above not only concerns commands: verbs which could be followed both by (anterior) propositions and (posterior) proposals (offers, that is) no longer overtly distinguished between these two types of complement in terms of the choice for a present/aorist or future infinitive. For illustration, consider the following example from Kavčič (2016:293):

- (23) ἀλλὰ διὰ τῆς χάριτος τοῦ Κυρίου Ἰησοῦ **πιστεύομεν σωθῆναι**  
καθ’ ὃν τρόπον καὶ αὐτοὶ (Acts 15.11)

“But we believe that we shall be saved through the grace of the Lord Jesus, in the same manner as they also”. (ASV)

As Kavčič notes, this phrase could mean either “we trust that we have been saved” (an anterior proposition), or “we trust that we will be saved” (a posterior proposal (offer)).<sup>82</sup>

## 5. Conclusion

I have argued that the system of infinitival complementation became profoundly ambiguous in the Post-classical and Byzantine period, and that this is likely to have been a cause for its decline. To be more specific, I have shown that due to the loss of the perfect and future infinitive, the present and aorist infinitive became increasingly temporally polyfunctional and ambiguous, the present being used not only for simultaneous but also for anterior and especially posterior events, and the aorist being used for not only anterior but also posterior

<sup>81</sup> In some examples, however, one finds a present infinitive where an aorist infinitive would be expected. See e.g. P.Flor.2.241, ll. 4–6 (254 AD), where one reads \συνχωρῶν/τὸ τοιοῦτο γείνεσθαι “allowing that such a thing should happen”.

<sup>82</sup> A third interpretation of this phrase may be possible, that is, as a posterior proposition: “we believe that we will be saved”.

events. These findings can be contrasted with earlier studies, which have claimed that the loss of the perfect and future infinitive led to the ‘omission’ of temporal distinctions in propositions. They also go quite clearly against the claims of relative tense theory: in these stages of Greek, there was no ‘isomorphism’<sup>83</sup> between finite and non-finite forms, as some studies have suggested, not even after verbs of communication and perception. Interestingly, the same is true for earlier stages of Greek: at a time when the future and perfect infinitive were not fully developed yet, similar usages are attested as in later Greek, when the future and perfect infinitive disappeared.

The above-mentioned temporal ambiguity was further complicated by the existence of a second type of ambiguity, that is, ambiguity with regard to the epistemic orientation of the complement clause or ‘modal’ ambiguity: already in Classical times, the present and aorist infinitive could be used after certain verb classes to encode both ‘propositions’ and ‘proposals’ (offers/commands), an ambiguity which continues to be found in later Greek. In Post-classical and Byzantine times, however, sentential elements which before helped to distinguish between these two interpretations were no longer of use, due to linguistic changes elsewhere (such as case interchange between the accusative, genitive and dative).

As Kurzová (1968) writes, finite complementisers made the use of the infinitive more ‘critical’: ‘Man kann aber sagen, daß der Infinitiv kein adäquater Ausdruck für beide Funktionen [propositions and proposals] ist ... Mit der Ausbildung der konjunkionalen Inhaltsnebensätze mußte diese Situation notwendig kritischer werden’ (1968:67). Next to a number of other advantages,<sup>84</sup> finite complementation patterns were also much less ambiguous: the choice of a complementiser (ὅτι vs. ἵνα in particular) immediately clarified the epistemic orientation of the complement clause.<sup>85</sup> As for the temporal orientation of finite complements, Greek preserved its strong opposition between the present and aorist stem, an aspectual distinction which it introduced in the future, too, through the use of periphrastics.<sup>86</sup>

<sup>83</sup> See e.g. Miller (2002:34): ‘infinitives can have tense morphology. When they do they can be used exactly as fully tensed complement clauses’.

<sup>84</sup> See §1.

<sup>85</sup> Mandilaras (1973), for example, refers to declarative infinitives as ‘ὅτι-infinitives’ and to dynamic infinitives as ‘ἵνα-infinitives’.

<sup>86</sup> See most recently Lucas (2012).



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